

Method for producing unsaturated ω -3-fatty acids in transgenic organisms

Abstract

The present invention relates to a process for production of unsaturated ω -3-fatty acids

and to a process for production of triglycerides with an elevated content of unsaturated

5 fatty acids, especially of ω -3-fatty acids having more than three double bonds. The

invention relates to the production of a transgenic organism, preferably of a transgenic

plant or of a transgenic microorganism, with an elevated content of unsaturated ω -3-

fatty acids, oils or lipids having ω -3-double bonds as the result of the expression of an

10 ω -3-desaturase from fungi of the family Pythiaceae such as the genus *Phytophtora*, for

example of the genus and species *Phytophtora infestans*.

The invention furthermore relates to the nucleic acid sequences, nucleic acid con-

structs, vectors and organisms comprising at least one nucleic acid sequence accord-

ing to the invention, at least one vector comprising the nucleic acid sequence and/or

the nucleic acid constructs, and transgenic organisms comprise the abovementioned

15 nucleic acid sequences, nucleic acid constructs and/or vectors.

A further part of the invention relates to oils, lipids and/or fatty acids produced by the

process according to the invention, and to their use. The invention moreover relates to

unsaturated fatty acids and triglycerides with an elevated content of unsaturated fatty

acids and their use.